

FEDERAL RANGELAND GRASSHOPPER & MORMON CRICKET SUPPRESSION PROGRAM -- IDAHO 2006

SUMMARY OF GRASSHOPPER SURVEY RESULTS

Most areas of southern Idaho did not experience major grasshopper outbreaks in 2006. The exception was a significant infestation centered in Washington and Adams counties. Damage to hayfields and gardens was observed throughout the area. Smaller infestations were detected in Treasure Valley, Magic Valley, and in southeast Idaho. Last year's major outbreak in the northern counties of Lewis, Clearwater, Nez Perce and Idaho was greatly diminished this season. The populations in western Idaho are troubling because the history of major grasshopper outbreaks in Idaho indicates that they begin in the west and spread eastward over the course of a few seasons. Species composition in outbreak areas consisted primarily of *Melanoplus sanguinipes*, *Melanoplus femur-rubrum*, and *Melanoplus packardii*. The late summer and fall season should have allowed exceptional oviposition opportunities, and there are currently no factors that would indicate any reason to expect major decreases in overall grasshopper populations in 2007. It is reasonable to expect that significant grasshopper outbreaks might occur in 2007.

SIGNIFICANT 2006 RANGELAND GRASSHOPPER SURVEY RESULTS

County	Acres infested at more than 8 grasshoppers per sq. yd					
	BLM	NATIONAL FOREST	STATE LAND	PRIVATE LAND	TOTAL	VERSUS 2005
Ada	5000		500	7500	13000	less
Adams	5000	15000	2000	20000	42000	more
Bannock		500		500	1000	same
Benewah				1500	1500	same
Blaine	500			1000	1500	more
Boise	1000	2000	1000	8000	12000	same
Bonneville	1000			1000	2000	more
Canyon	1000			3000	4000	same
Cassia	4000			4000	8000	more
Clearwater			6000	14000	20000	less
Elmore	5000	1000	1000	5000	12000	less
Franklin		2000		1000	3000	more
Fremont	500	1000		500	2000	more
Gem	10000		1000	35000	46000	less
Gooding	2000			2000	4000	more
Idaho	1000	3000	1000	40000	45000	less
Jerome	2000			2000	4000	same
Kootenai				1000	1000	less
Latah				50000	50000	less
Lewis				15000	15000	less
Lincoln	1000			1000	2000	more
Minidoka	2000				2000	more
Nez Perce				25000	25000	less
Oneida	5000	5000		5000	15000	more
Owyhee	15000		2000	3000	20000	more
Payette	10000		1000	5000	16000	less
Teton		1000		1000	2000	more
Valley		2000		20000	22000	more
Washington	15000	5000	1000	61000	82000	same
TOTAL	86000	37500	16500	334000	474000	less

SUMMARY OF MORMON CRICKET SURVEY RESULTS

In southwestern Idaho, the Mormon cricket outbreak in Owyhee County continued in 2006. We anticipate this large infestation may have reached its peak, and treatments have reduced local elements of the outbreak. The infestation extended eastward about 40 miles from the Oregon border and southward about 70 miles from the Snake River. Significant migrations occurred within the infested area and most notably along the western boundary of the infestation along hiway 95.

There is also an infestation of Mormon crickets in Gooding, Camas, Elmore, Boise, Gem, and Washington Counties. Control activities over the past few years seem to have diminished populations in some areas, but the overall outbreak stretches about 125 miles from north of Gooding to the Snake River west of Cambridge

In Eastern Idaho the infestation is continuing to build in Oneida, Power, Bannock and Cassia Counties. Migrations from the Yost, Utah area were noted entering Cassia county.

SIGNIFICANT 2006 MORMON CRICKET SURVEY RESULTS

County	Acres infested with Mormon crickets					
	BLM	NATIONAL FOREST	STATE LAND	PRIVATE LAND	TOTAL	VERSUS 2005
Ada	1000	500	500	2000	4000	less
Adams		4000	4000	1000	9000	less
Bannock	500	1000		500	2000	more
Boise	500	5000	2000	2500	10000	less
Camas	5000			5000	10000	more
Cassia	2000		500	1500	4000	more
Elmore	1000	1000	1000	1000	4000	less
Gem	4000		1000	5000	10000	same
Gooding	15000		1000	4000	20000	more
Oneida	30000	5000	2000	10000	47000	less
Owyhee	150000		5000	20000	175000	less
Power	6000			6000	12000	same
Valley		2000			2000	same
Washington	10000	65000	5000	20000	100000	less
TOTAL	225000	83500	22000	78500	409000	less

SUMMARY OF COMPLAINTS AND TREATMENTS

U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine (PPQ) received a total of 14 official complaints about grasshoppers and Mormon crickets. PPQ conducted 5 treatment projects on federal land in response to these complaints (some individual projects were in response to more than one complaint). All these treatments were on rangelands managed by Bureau of Land Management or National Forest Lands and consisted of application of 10 lbs/acre of 5% carbaryl bait or 0.75 oz/acre of diflubenzuron spray. The bait was distributed by ground along roads and trails through infested rangeland in Camas, Cassia, Gooding, Oneida, Owyhee, and Washington Counties. Bait was applied by air on infested rangelands in Owyhee County. Diflubenzuron was applied by air in Camas, Gooding, Oneida, and Owyhee Counties. PPQ treated a total of 8942 acres with carbaryl 5% bait and 25778 acres with diflubenzuron in Idaho in 2006.

Acres of Federally Managed Land Treated for
Mormon Crickets by County in Idaho in 2006

Camas	2771 acres aerial diflubenzuron 290 acres ground carbaryl bait
Cassia	205 acres ground carbaryl bait
Gooding	3000 acres aerial diflubenzuron 227 acres ground carbaryl bait
Oneida	12825 acres aerial diflubenzuron 1040 acres ground carbaryl bait
Owyhee	7182 acres aerial diflubenzuron 4500 acres aerial carbaryl bait 2490 acres ground carbaryl bait
Washington	190 acres ground carbaryl bait

The other official complaints did not result in treatment by PPQ because:

Insects were on state or private land and not on federal land, or
Environmental concerns precluded treatments, or
Numbers of insects present did not justify treatment

Grasshopper populations on federally managed lands were generally light with only a few outbreaks. In areas where treatments could be applied by air or ground the Mormon cricket populations were suppressed to levels that did not result in extensive crop loss or damage to natural resources.

SUMMARY OF ENVIRONMENTAL DECISIONMAKING

The Environmental Impact Statement which informs decisions on the Federal Rangeland Grasshopper Suppression Program in seventeen western states is available at:

<http://www.aphis.usda.gov/ppd/es/gh.html>

PPQ conducted scoping in October and November 2005 and received twelve responses from private citizens, organizations, and governmental units. The responses expressed concern about the damage that grasshoppers and Mormon crickets would cause if they were not controlled and concern about potential adverse effects of insecticides. PPQ considered all the comments and prepared four environmental assessments, one for Mormon crickets and three for grasshoppers. The Environmental Assessments which informed decisions about the 2006 program in Idaho are available at:

http://www.agri.state.id.us/Categories/PlantsInsects/GrasshopperMormonCricketControlProgram/ghprogramenvirodocs_pubs_reports.php

PPQ analyzed only carbaryl bait and diflubenzuron spray for the Mormon cricket program. In normal outbreaks, carbaryl bait can be very effective in suppressing Mormon crickets. Because Mormon crickets are flightless, travel significant distances on the ground from the places where they hatch to the places where they may damage crops or other resources, and move in large

bands which can be easily detected by the general public as well as trained scouts; they can be intercepted with bait treatments applied by air or ground. However, the logistical problems associated with application of the bait at 10 lbs./acre preclude its exclusive use in very large outbreaks. Diflubenzuron spray would be applied by air with 0.75 oz of diflubenzuron in 30 oz. water and oil carrier. Because lesser amounts of the spray are required for suppression, more acreage can be covered more quickly with spray than with bait. Carbaryl bait and diflubenzuron pose less risk to non-target insect species than some other insecticides.

Because grasshoppers can fly, may hatch in very close proximity to crops, and are not readily detected by many members of the public until they have reached maturity; PPQ analyzed malathion spray as well as carbaryl bait and diflubenzuron sprays for the grasshopper programs. Malathion is quicker acting than carbaryl bait or diflubenzuron and would have been applied at 6 oz/acre. However, malathion has a broad spectrum of insecticidal activity and would only be applied if carbaryl bait or diflubenzuron treatments would not be expected to adequately suppress the grasshopper outbreak.

In response to stakeholder expressions of concern about exposure to pesticides, PPQ initiated a program which allows concerned parties to request federally managed rangeland near their homes or property be excluded from treatments for grasshoppers or Mormon crickets. There were no applicants for the program.